

What is claimed is:

1. A lens barrel comprising:

a lens frame for supporting a photographing lens group,
said lens frame including a guide bore which extends in a
5 direction parallel to the optical axis of said photographing
lens group;

a support barrel, wherein said lens frame can be
inserted into and removed from a front opening of the support
barrel;

10 a rod receiving portion formed inside said support
barrel at the rear of said front opening in the optical axis
direction;

a bracket detachably attached to a front end of said
support barrel to prevent said lens frame from falling out
15 of the front of said support barrel; and

a guide rod provided on said bracket for guiding said
lens frame to move relative to said support barrel in the
optical axis direction, said guide rod being placed through
said guide bores and the end of said guide rods engaging with
20 said rod receiving portion when said bracket is attached to
said support barrel;

wherein said lens group frame can be taken out of said
support barrel through the front opening when said bracket

having said guide rod is removed from said support barrel.

2. The lens barrel according to claim 1, wherein said lens barrel comprises a plurality of the guide bores, a plurality of the rod receiving portions, and a plurality of the guide rods.

3. The lens barrel according to claim 1, wherein a biasing spring is provided between said bracket and said lens group frame for biasing said lens group frame rearward in the optical axis direction.

4. The lens barrel according to claim 1, wherein said guide rod is removable with respect to said bracket, and is secured to said bracket before said bracket is attached to said support barrel.

5. The lens barrel according to claim 1, further comprising a first sub-lens group provided on the object side and a second sub-lens group provided on the image side with respect to said first sub-lens group, said first and second sub-lens groups functioning optically in a mutually close position and in a mutually distant position in the optical axis direction;

wherein said lens frame, which is guided by said guide rod, constitutes a first sub-lens group frame which supports said first sub-lens group;

wherein said support barrel further supports a second sub-lens group frame, which supports said second sub-lens group, wherein said second lens group frame can be inserted into and taken out of said support barrel through said front opening; and

wherein said first lens group frame and said second lens group frame can be taken out of said support barrel from said front opening in that order, upon removal of said bracket from said support barrel.

6. The lens barrel according to claim 5, further comprising an actuator ring rotatably supported by said support barrel in the rear of said second sub-lens group frame so as not to move in the optical axis direction, said actuator ring being rotated so as to drive said first sub-lens group frame and said second sub-lens group frame with respect to said support barrel;

wherein said second sub-lens group frame is prevented from moving rearward due to said second sub-lens group frame being in contact with said actuator ring; and

wherein said first sub-lens group frame is prevented from moving rearward due to said first sub-lens group frame being in contact with said second sub-lens group frame.

7. The lens barrel according to claim 6, wherein

1 said second sub-lens group frame is supported in said
support barrel so that said second sub-lens group frame can
rotate in one and the other direction over a predetermined
angle, and said second sub-lens group frame is guided to move
5 in the optical axis direction at each rotational movement
extremity thereof;

wherein the rotation of said actuator ring selectively
causes said second sub-lens group frame to rotate and to move
in the optical axis direction;

10 wherein the rotation of said second sub-lens group
frame causes said first sub-lens group frame and said second
sub-lens group frame to move to said mutually close position
and to said mutually distant position; and

15 wherein the movement of said second sub-lens group
frame in the optical axis direction causes said first
sub-lens group frame to integrally move with said second
sub-lens group frame in the optical axis direction.

8. The lens barrel according to claim 7, wherein
said first sub-lens group and said second sub-lens group are
20 one of a plurality of variable lens groups of a zoom lens
system, wherein the relative position of said first and
second sub-lens group frames is switched to said mutually
close position and said mutually distant position in the

zooming operation; and

wherein said first and second sub-lens groups serve as a focusing lens group when said first and second sub-lens group frames are integrally moved in the optical axis direction in said mutually close position and in said mutually distant position.

9. The lens barrel according to claim 1, wherein a shutter member which can be selectively opened and closed is provided on said support barrel in the rear of said lens frame.